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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/954,705	09/10/2001	Robert C. Cook	85007-0261905	8851

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PILLSBURY WINTHROP LLP  
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EXAMINER

MEEKS, TIMOTHY HOWARD

ART UNIT PAPER NUMBER

1762

DATE MAILED: 06/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/954,705

Applicant(s)

COOK ET AL.

Examiner

Timothy H. Meeks

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other: .

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Nordell et al. (5,759,263).

Applicants claim to priority of provisional application 60/100,594 is noted. As that application does not provide a written description of the claimed subject matter so as to meet the requirements of 35 USC 112, first paragraph, applicants are not entitled to the benefit of the provisional application filing date for the claimed subject matter. Nordell et al therefore qualifies as prior art under 35 USC 102(b). The process of claims 1-5 is explicitly disclosed in figures 3 and 4, col. 3, lines 45-50, and col. 4, line 5 to col. 5, line 15.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nordell et al.

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Nordell does not explicitly disclose the magnitude of the temperature gradient and thus fails to explicitly disclose the temperature differences of claims 6 and 12. However, because Nordell discloses that the temperature gradient is provided to provide the substrate with a somewhat higher temperature than the wall upon which it is nearest and thus prevent deposition on the wall and prevent particles (col. 2, lines 5-15), it is clear that the magnitude of the gradient must be chosen so as to provide a high enough substrate temperature for deposition and low enough wall temperature to prevent deposition thereon. As such, the temperature gradient magnitude is a result effective parameter and adjustment of this result effective parameter to values in the claimed range through routine experimentation for optimization of the process would have been obvious absent evidence showing a criticality for using the claimed temperature gradient magnitudes.

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nordell et al. in view of Goela et al. (5,604,151).

Nordell does not disclose the flow rate or velocity of the process gases for depositing the SiC films. However, because Goela discloses that flow rates and velocities of process gases in the claimed range are operable and successful for depositing SiC (col. 4, lines 12-55), it would have been obvious to have used flow rates and velocities in the claimed range with a reasonable expectation of their being successful.

Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nordell et al. in view of Anderson et al. (5,269,847).

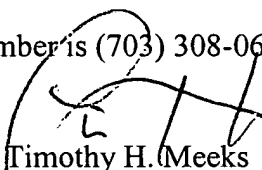
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Nordell is silent as to the type of gas introduction device and therefore does not teach the claimed injectors. However, because Anderson discloses that using a plurality of temperature controlled injectors to inject gas across a substrate leads to increased uniformity and control of reactant concentration and flow rates (abstract, col. 1, line 54 to col. 2, line 20 and col. 2, lines 45-50 and 65-68), it would have been obvious to provide a plurality of temperature controlled gas injectors directed at the substrate surface as in Anderson so as to achieve the benefits of improved gas concentration and uniformity.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy H. Meeks whose telephone number is (703) 308-3816. The examiner can normally be reached on Mon., Tues., Thurs.(6-6:30), Fri.(6:30-10:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive P. Beck can be reached on (703) 308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Timothy H. Meeks  
Primary Examiner  
Art Unit 1762

Inf  
May 29, 2003